

IN THE CLAIMS

Claim 1. (currently amended)      A secondary electrical load power management system for controlling secondary load power consumption during operation of an aircraft comprising:

a plurality of secondary electrical loads;

at least one aircraft flight condition sensor; and

a controller coupled to said plurality of secondary electrical loads and to said at least one aircraft flight condition sensor for determining engine secondary power extraction and current operating conditions of said aircraft, means for determining an engine secondary power extraction limit in response to said current operating conditions, and means for operating said plurality of secondary electrical loads in response to said engine secondary power extraction limit and said engine secondary power extraction, wherein said controller in determining current operating conditions determines engine primary power extraction.

wherein said secondary electrical loads comprise loads not used for flight or necessary for maneuvering the aircraft, said plurality of secondary electrical loads comprises at least one direct power secondary load and at least one indirect power secondary load,

wherein said controller operates said plurality of secondary electrical loads in priority when said engine secondary power extraction is less than or equal to approximately said engine secondary power extraction limit,

wherein operating said plurality of secondary electrical loads in priority comprises operating a plurality of indirect power secondary loads in response to output limitations

of at least one direct power secondary load, whereby said aircraft has direct power secondary electrical loads having a combined total power consumption level that is greater than that of the rated maximum secondary power extraction of the aircraft engine allowing an aircraft engine to satisfy electrical power consumption requirements for an increased number of secondary electrical loads.

Claim 2. (canceled)

Claim 3. (previously amended)                      A system as in claim 23 wherein said at least one direct power secondary load comprises at least one generator or pump.

Claim 4. (cancelled)

Claim 5. (original)                      A system as in claim 4 wherein said controller in determining said engine primary power extraction determines at least one of engine speed, engine throttle, and high pressure shaft speed.

Claim 6. (original)                      A system as in claim 1 wherein said controller in determining engine secondary power extraction determines power extraction from at least one direct power secondary load selected from at least one of a generator and a pump.

Claim 7. (cancelled)

Claim 8. (cancelled)

Claim 9. (original)                      A system as in claim 1 wherein said controller limits operation of said plurality of secondary electrical loads when said engine secondary power extraction is greater than said engine secondary power extraction limit.

Claim 10. (original)                      A system as in claim 9 wherein said controller in limiting operation of said plurality of secondary electrical loads prevents said engine secondary power extraction from exceeding said engine secondary power extraction limit.

Claim 11. (currently amended)      A method of controlling secondary electrical load power consumption during operation of an aircraft comprising the steps in sequence recited:

determining current operating conditions of the aircraft;

determining an engine secondary power extraction limit in response to said current operating conditions;

determining engine secondary power extraction; and

operating a plurality of secondary loads in response to said engine secondary power extraction limit and said engine secondary power extraction,

wherein operating said plurality of secondary loads comprises operating said plurality of secondary loads in priority when said engine secondary power extraction is less than or equal to approximately said engine secondary power extraction limit,

wherein said secondary electrical loads comprise loads not used for flight or necessary for maneuvering the aircraft, said plurality of secondary electrical loads comprises at least one direct power secondary load and at least one indirect power secondary load,

wherein said controller operates said plurality of secondary electrical loads in priority when said engine secondary power extraction is less than or equal to approximately said engine secondary power extraction limit, whereby said aircraft has direct power secondary electrical loads having a combined total power consumption level that is greater than that of the rated maximum secondary power extraction of the aircraft engine allowing an aircraft engine to satisfy electrical power consumption requirements for an increased number of secondary electrical loads.

Claim 12. (previously amended)      A method as in claim 11 wherein determining current operating conditions comprises determining engine primary power extraction.

Claim 13. (previously amended)      A method as in claim 12 wherein in determining engine primary power extraction comprises determining at least one of engine speed, engine throttle, and high pressure shaft speed.

Claim 14. (previously amended)      A method as in claim 11 wherein determining engine secondary power extraction comprises determining power extraction from at least one direct power secondary load selected from at least one of a generator and a pump.

Claim 15. (cancelled)

Claim 16. (currently amended)      A method as in claim 11 [[15]] wherein operating said plurality of secondary loads comprises operating a plurality of indirect power secondary loads in response to output limitations of at least one direct power secondary load.

Claim 17. (previously amended)      A method as in claim 11 wherein operating said plurality of secondary loads comprises limiting operation of said plurality of secondary loads when said engine secondary power extraction is greater than said engine secondary power extraction limit.

Claim 18. (previously amended)      A method as in claim 17 wherein operation of said plurality of secondary loads is limited so that said engine secondary power extraction does not exceed said engine secondary power extraction limit.

Claim 19. (previously amended) A method as in claim 17 wherein operation of said plurality of secondary loads are limited in response to engine output power capability.

Claim 20. (canceled)

Claim 21. (original) A system as in claim 1, wherein said controller is microprocessor based.

Claim 22. (currently amended) A system as in claim 1, wherein said at least one indirect power secondary load includes at least one of electrical devices, lighting systems, computer systems, navigation controls, air conditioning systems, video monitors and telecommunication systems.

Claim 23. (currently amended) A secondary electrical load power management system for controlling secondary load power consumption during operation of an aircraft comprising:

a plurality of secondary loads, including at least one secondary electrical load;  
at least one aircraft flight condition sensor; and

a controller coupled to said plurality of secondary loads and to said at least one aircraft flight condition sensor for determining engine secondary power extraction and current operating conditions of said aircraft, means for determining an engine secondary power extraction limit in response to said current operating conditions, and means for operating said plurality of secondary loads in response to said engine secondary power extraction limit and said engine secondary power extraction,

wherein said secondary loads comprise loads not used for flight or necessary for maneuvering the aircraft, said plurality of secondary loads comprises at least one direct power secondary load and at least one indirect power secondary load,

wherein said controller operates said plurality of secondary loads in priority when said engine secondary power extraction is less than or equal to approximately said engine secondary power extraction limit, whereby said aircraft has direct power secondary loads having a combined total power consumption level that is greater than that of the rated maximum secondary power extraction of the aircraft engine allowing an aircraft engine to satisfy power consumption requirements for an increased number of secondary loads.

24. (currently amended)      A ~~method system~~ according to claim 23, whereby said aircraft has direct power secondary electrical loads having a combined total power consumption level that is greater than that of the rated maximum secondary power extraction of the aircraft engine allowing an aircraft engine to satisfy electrical power consumption requirements for an increased number of secondary electrical loads.

25. (currently amended)      A method of controlling secondary electrical load power consumption during operation of an aircraft comprising the steps in the sequence recited:

determining current operating conditions of the aircraft;

determining an engine secondary power extraction limit in response to said current operating conditions;

determining engine secondary power extraction; and

operating a plurality of secondary loads in response to said engine secondary power extraction limit and said engine secondary power extraction,

wherein operating said plurality of secondary loads comprises operating said plurality of secondary loads in priority when said engine secondary power extraction is less than or equal to approximately said engine secondary power extraction limit,

wherein said secondary loads comprise loads not used for flight or necessary for maneuvering the aircraft, said plurality of secondary loads comprises at least one direct power secondary load and at least one indirect power secondary load,

wherein said controller operates said plurality of secondary loads in priority when said engine secondary power extraction is less than or equal to approximately said engine secondary power extraction limit, whereby said aircraft has direct power secondary loads having a combined total power consumption level that is greater than that of the rated maximum secondary power extraction of the aircraft engine allowing an aircraft engine to satisfy electrical power consumption requirements for an increased number of secondary electrical loads.